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The Factors Influencing Tourist Visitations Number in Curug Silawe

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Abstract

The purposes of this research are to identify the influence of travel cost, income, distance, access, facilities, natural beautiness, and age on the number of individual visits to Curug Silawe and to estimate the economic value of Curug Silawe through individual travel cost method. The population in this study are tourists that visited Curug Silawe with sample of 98 respondents taken by the quota accidental sampling technique. The data collection method used are literature study and questionnaire. The analysis tool used are OLS linear regression and economic value estimation. The results showed the variables that influence the number of individual visits to Curug Silawe are income, distance and age. Income and age has a positive effect. While distance has a negative effect. The economic value of Curug Silawe reached IDR 1,109,930,140.48 per year. This value is obtained from consumer surplus obtained per individual per year of IDR 308,656.88.

Keywords: Number of Tourist Visitations, Curug Silawe, Economic Value, Travel Cost Method

Abstrak

Tujuan dari penelitian ini adalah untuk mengidentifikasi pengaruh biaya perjalanan, pendapatan, jarak, akses, fasilitas, keindahan alam, dan usia pada jumlah kunjungan individu ke Curug Silawe dan untuk memperkirakan nilai ekonomi Curug Silawe melalui metode biaya perjalanan individu . Populasi dalam penelitian ini adalah wisatawan yang berkunjung ke Curug Silawe dengan sampel 98 responden yang diambil dengan teknik quota accidental sampling. Metode pengumpulan data yang digunakan adalah studi literatur dan kuesioner. Alat analisis yang digunakan adalah regresi linear OLS dan estimasi nilai ekonomi. Hasil penelitian menunjukkan variabel yang mempengaruhi jumlah kunjungan individu ke Curug Silawe adalah pendapatan, jarak dan usia. Penghasilan dan usia memiliki efek positif. Sedangkan jarak memiliki efek negatif. Nilai ekonomi Curug Silawe mencapai Rp1.109.930.140,48 per tahun. Nilai ini diperoleh dari surplus konsumen yang diperoleh per individu per tahun sebesar Rp308.656,88.

Kata Kunci: Jumlah Kunjungan Wisata, Curug Silawe, Nilai Ekonomi, Metode Biaya Perjalanan

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INTRODUCTION

Tourism as mentioned in the Law of the Republic of Indonesia number 10 of 2009 is a travel activity performed by a person or group of people by visiting certain places for recreational purposes, personal development, or to learn the uniqueness of a tourist attraction which visited in a temporary period. Currently the tourism sector is one of the strategic sectors capable of sustaining the economy both from the state order to the society.

Indonesia with various tourism attractions has been able to attract both the Indonesian and foreign tourists' visit (Hanif & Fafurida, 2018). This is proven by the tourism sector that has been developed year by year. In 2014 tourism generated a GDP of IDR 394.52 trillion, 2015 as much as IDR 461.36 trillion, and again in 2016 increased to IDR 500.19 trillion (Kementerian Pariwisata, 2017). Tourism foreign exchange in 2017 amounted to 15,235.5 US$, increased from 2016 which is only 13,458.5 US$ (Kementerian Pariwisata, 2018).

Central Java is one of the province in Indonesia which has natural beauties and historical varieties which become a tourist attraction that is capable of attracting tourist visitations. One of regencies with the highest number of tourists in Jawa Tengah is Magelang Regency, as shown in table 1:

Table 1. Lists of 9 Regencies / Cities with The Highest Number of Tourists
in Central Java Province In 2013 - 2017

No.	Regencies / Cities	Number of Tourists (People)				
		2013	2014	2015	2016	2017
1	Banyumas Regency	984.290	1.424.986	2.005.483	1.695.115	2.111.861
2	Demak Regency	1.542.725	1.432.182	1.454.995	1.527.280	1 672 509
3	Jepara Regency	1.409.468	1.506.596	1.671.226	1.774.595	2.190.231
4	Kudus Regency	918.149	1.687.759	1.503.012	1.518.727	1.845.872
5	Magelang Regency	4.054.554	4.008.680	4.273.552	4.609.275	4.867.701
6	Rembang Regency	2.397.234	392.391	1.395.354	1.229.585	-
7	Semarang Regency	1.367.452	1.526.549	2.119.938	2.257.933	2.822.421
8	City of Semarang	2.002.286	2.704.982	2.870.082	3.125.197	5.024.476
9	City of Surakarta	2.362.527	3.265.137	3.007.329	2.509.085	3.069.597

Source: Dinas Kepemudaan, Olahraga, dan Pariwisata se-Jawa Tengah, 2018

Based on table 1 the highest number of tourists in Central Java Province in 2013 - 2016 is Magelang Regency. In 2017 the highest number of tourists is Semarang, which is 5.024.476 tourists. The number of tourists in Magelang Regency decreased in 2014 by 45.874 tourists. Although it decreased in 2014, the number of tourists in Magelang Regency experienced a successive increase in the following year, 264.882 tourists in 2015, 335.273 tourists in 2016, and 258.426 tourists in 2017.

Ecotourism as a sustainable development tool provides long-term social, environmental and economic benefits and is given appropriate priority in the country's economic development (Nihayah, Pujiati, Khoiruddin, & Kusrini, 2017). The location of Magelang Regency in the mountainous landscape has made it rich in tourism choices based on the natural environment or ecotourism, some of them is waterfall. There are five waterfalls, namely Sekar Langit Waterfall, Seloprojo Waterfall, Kedung Kayang Waterfall, Delimas Waterfall, and Curug Silawe Waterfall.

The natural tourism object of Curug Silawe is located in Kopeng Kulon, Sutopati Village, Kajoran District, Magelang Regency. The natural tourism object of Curug Silawe is 20.6 km or about 45 minutes from Magelang City. The number of tourist visits in Curug Silawe compared with other attractions can be seen in table 2:

Table 2. Number of Tourist Visits on Tourism Destinations in Magelang Regencyin 2013-2017

Tourism Destinations	2013	2014	2015	2016	2017	Total
Borobudur Temple	3,581,726	3,376,304	3,578,387	3,759,300	3,775,799	18,071,516
Mendut and Pawon Temple	84,022	78,141	60,051	75,168	76,918	374,300
PAH Candi Umbul	19,971	27,528	31,706	37,258	40,014	156,477
TR Mendut	61,876	68,858	75,216	91,385	94,682	392,017
Bleder Lake	3,074	3,294	4,057	8,836	13,506	32,767
Ketep Pass	342,944	329,480	354,084	337,994	320,929	1,685,431
Sekar Langit	11,683	13,573	15,169	16,116	9,312	65,853
Seloprojo	2,549	2,874	3,891	5,475	2,848	17,637
Kedung Kayang	13,132	13,534	12,075	4,662	6,541	49,944
Curug Silawe	6,579	7,877	6,239	5,471	3,596	29,762
Selogriyo Temple	-	-	-	18,439	14,700	33,139
Punthuk Setumbu	-	-	-	102,886	122,879	225,765
Ngawen Temple	-	-	-	26,656	28,693	55,349

Source: Dinas Pariwisata, Kepemudaan dan Olahraga Kabupaten Magelang, 2018

Based on table 2, the number of tourist visits in Curug Silawe increased only in 2014, which is 1,298 tourists. However, over 2015 to 2017 the number of visits has decreased. In 2015 the number decreased by 1,638 tourists, in 2016 decreased by 768 tourists, and in 2017 decreased by 1,875 tourists.

Compared to other attractions, Curug Silawe is not as popular as leading tourist attractions such as Borobudur Temple, Mendut Temple, and Ketep Pass. In terms of transportation, Curug Silawe is only accessible by private transportation as a result of the unavailability of public transportation. In terms of distance, Curug Silawe is closer than Ketep Pass which is ± 26.5 km from the city of Magelang yet it is further than the Borobudur Temple which is only ± 17.5 km from the city of Magelang. Though not a popular tourist attraction, Curug Silawe has the potential to increase the number of tourist visits in Magelang Regency and help the economy of the local communities.

The degradation in the number of visitors to Curug Silawe during 2015 - 2017 is certainly influenced by factors that cause a decrease in the number of tourist visits to Curug Silawe. The number of tourist visits in this case means how many times a person visits a tourist attraction or the frequency of visits at a certain time. The factors that are supposed to influence the number of individual visits to Curug Silawe include travel cost, income, distance, access, facilities, natural beauties, and age.

Furthermore, it is also necessary to know the economic value Curug Silawe. The assessment of the economic value of a tourism object is required to determine whether travel during tourism activities undertaken in the tourist attraction provides benefit to individuals who visit the tourist site. Individual Travel Cost Method is a common method used to measure the economic value of a tourist area. This can be used as material for policy making in the context of future development and management of Curug Silawe.

This study aims to identify the influence of travel cost, income, distance, access, facilities, natural beauty, and age on the number of individual visits to Curug Silawe and estimate the economic value obtained from the use of Curug Silawe as a tourist attraction.

METHOD

This type of research is quantitative research. The population in this study were all visitors of the natural tourist attraction of Curug Silawe in Magelang Regency with a population of 3,596 visitors based on the latest data of the visit in 2017. The samples used were 98 respondents based on the Slovin's formula. This study use quota accidental sampling technique. Sampling is done by meeting visitors at the research location but with the sample size specified.

The data obtained through literature review and questionnaire. Literature study is done by obtaining and studying data and documents that supports this research. While the questionnaire is done by giving a set of questions to the visitors of Curug Silawe at a number of 98 respondents.

The data analysis technique used is multiple linear regression with OLS (Ordinary Least Square) approach with EViews 9.5 software and economic value estimation. The regression model used to identify the influence of travel cost, income, distance, access, facilities, natural beauties, and age on the number of individual visits to Curug Silawe is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + ei \dots\dots\dots\dots\dots\dots\dots(1)$$

Where :

Y   :   Number of individual visits to Curug Silawe (times)

Y   :

β_0 : Constant

X_1 : Travel Cost (Rupiah)

X_2 : Income (Rupiah)

X_3 : Distance (km)

X_4 : Access (likert scale)

X_5 : Facilities (likert scale)

X_6 : Natural beauties (likert scale)

X_7 : Age (year)

e   : error term (residual)

To estimate the economic value of Curug Silawe, individual travel cost method is used by calculating the surplus obtained by consumers per individual per year based on the travel cost incurred by visitors, which can be formulated as follows (Zulpikar, Prasetiyo, Shelvatis, Komara, & Pramudawardhani, 2017):

$$Dx = Qx = a - bP \dots\dots\dots\dots\dots\dots\dots\dots(2)$$

Where :

Dx   = Demand of visits

Qx   = Number of visits

a   = Constant

b   = Regression coefficient

P   = Price / total of travel cost

Furthermore, to calculate the economic value with a consumer surplus, a limited integral equation is used. The lower limit (P_0) s the lowest price of travel cost and the upper limit (P_1) is the highest price of travel cost,

formulated as follows (Furqony & Fafurida, 2017):

$$SK = \int_{P0}^{P1}(a - bPx)dPx \dots\dots\dots\dots\dots\dots(3)$$

RESULTS AND DISCUSSION

The multiple linear regression equation with Ordinary Least Square (OLS) approach is used to determine the influence of seven independent variables namely travel cost, income, distance, access, facilities, natural beauties, and age on the dependent variable, namely the number of individual visits to Curug Silawe. Thus, the results obtained as follows:

Table 3. EViews Analysis Results

Variable	Coefficient	t Statistic	Prob.
C	-0.0018	-0.0123	0.9902
D(X_1)	-1.06E-06	-0.3531	0.7248
D(X_2)	2.10E-07	2.0777	0.0406*
D(X_3)	-0.0112	-2.2017	0.0303*
D(X_4)	0.0483	0.5190	0.6050
D(X_5)	0.0496	0.7862	0.4338
D(X6)	0.0219	0.2414	0.8098
D(X_7)	0.0379	2.3325	0.0219*
R^2	0.3103		
Adjusted R-squared	0.2561		
F-statistic	5.7214		
Prob (F-statistic)	0.0000		

Source: Primary data, processed

Information: Mark (*) means a significant effect.

Based on table 3, the regression equation can be described as follows:

$$Y = -0.001 - 0.00000106 X_1 + 0.00000021 X_2 - 0.011 X_3 + 0.048 X_4 + 0.049 X_5 + 0.021 X_6 + 0.037 X_7 + e$$

If the Y variable is the number of individual visits to Curug Silawe, therefore the regression results on the equation model can be interpreted as follows:

Constant (β0)

The constant value in the regression results can be interpreted if all the independent variables has a value of zero (0), therefore the value of individual visits number to Curug Silawe is 0.001 times.

Travel cost (X1) to the number of visits (Y)

The travel cost coefficient (X1) to the number of visits (Y) is -0.00000106, this figure can be interpreted that every increase in travel costs of IDR 1, the number of individual visits to Curug Silawe will decrease by 0.00000106 times. If travel costs increase, the number of individual visits to Curug Silawe will decrease with assumption that the other independent variables from regression model remain constant.

Income (X2) to the number of visits (Y)

The income coefficient (X2) to the number of visits (Y) is 0.00000021, the figure shows that every increase in income of 1 rupiah, the number of individual visits to Curug Silawe will increase by 0.00000021 times with assumption that the other independent variables from regression model remain constant.

Distance (X3) to number of visits (Y)

The distance coefficient (X3) to the number of visits (Y) is -0.011, this value indicates that each increase in distance of 1 kilometer, the number of individual visits to Curug Silawe will decrease by 0.011 times with assumption that the other independent variables from regression model remain constant . It can be interpreted that additional

distance will be a consideration for tourists to visit Silawe Waterfall.

Access (X4) to the number of visits (Y)

The access coefficient (X4) to the number of visits (Y) is 0.048, this value indicates that each increase in tourist perception of access by 1 unit, the number of individual visits to Curug Silawe will increase by 0.048 times with assumption that the other independent variables from regression model remain constant.

Facilities (X5) to the number of visits (Y)

The facilities coefficient (X5) to the number of visits (Y) is 0.049, this value indicates that each increase in tourist perceptions of facilities by 1 unit, the number of individual visits to Curug Silawe will increase by 0.049 times with assumption that the other independent variables from regression model remain constant.

Natural beauties (X6) to the number of visits (Y)

The natural beauties coefficient (X6) to the number of visits (Y) is 0.021, this value indicates that each increase in tourist perception of natural beauties by 1 unit, the number of individual visits to Curug Silawe will increase by 0.021 times with assumption that the other independent variables from regression model remain constant.

Age (X7) to number of visits (Y)

The coefficient of age (X7) to the number of visits (Y) is 0.037, this value indicates that every increase in age by 1 year, the number of individual visits to Curug Silawe will increase by 0.037 times with assumption that the other independent

variables from regression model remain constant.

Based on Table 3, the Adjusted R-Squared value (R2) is 0.256, which means that 25.6% of the number of individual visits to Curug Silawe are simultaneously explained by variables of travel cost, income, distance, access, facilities, natural beauties, and age. While the remaining 74.4% is explained by other variables that are not examined in the research.

Based on table 3 for the partial test (t test), the value of t table is 1.987 and the level of significance is 5% (0.05). From the seven independent variables analyzed by multiple linear regression, there are three variables that has a significant effect on dependent variable, namely income (X2), distance (X3), and age (X7). While the other 4 variables has no significant effect including travel cost (X1), access (X4), facilities (X5), and natural beauties (X6).

Based on table 3 for the simultaneous test (F test), the calculated F value is 5.72 with a significance level of 0.000. The F table value obtained is 2.11. Considering the calculated F value is greater than F table which is 5.72 > 2.11 and the significance level is 0,000 < 0.05, it can be concluded that the variables of travel cost, income, distance, access, facilities, natural beauty, and age simultaneously has a significant effect to the number of individual visits to Curug Silawe.

The economic value estimation method used is individual travel cost method by calculating the surplus obtained by consumers per individual per year based on the travel cost. The regression results between the number of individual visits (Y) and the variable

of travel cost generate the demand model as follows:

Table 4. Travel Cost Regression Results

Variable	Coefficient
C	1.943000
TC	-3.61E-06

Source: Primary data, processed

Dx = Qx = 1.943 – 0.00000361P

Furthermore, the equation is used to produce a consumer surplus as an economic value. To produce a consumer surplus per individual per year integral limited calculation is carried out. The upper limit is the highest price of a travel cost of IDR 200,000.00 and the lower limit is the lowest price of a travel cost of IDR 4,000. The calculation is as follows:

$$SK = \int_{4,000}^{200,000} (1.943 - 0.00000361)dP$$

= 308,656.88 per individual per year
= 154,328.44 per individual per one visit

The calculation results show that the consumer surplus per individual per year is IDR 308,656.88, where visitors of Curug Silawe have visited 2 times on average. It can be seen that the advantage enjoyed by consumers as a result of their ability to pay is greater than the actual costs where the average expenditure per individual is IDR 49,230.00. The consumer surplus obtained is IDR 308,656.88 per individual per year or IDR 154,328.44 per one visit.

The result of economic value is done by calculating the consumer surplus per individual per year of IDR 308,656.88

multiplied by the number of visitors in 2017 which are 3,596 visitors. The results of multiplication between consumer surplus per individual per year and the number of visitors in 2017 is 1,109,930,140.48. Therefore, the economic value of Curug Silawe is IDR 1,109,930,140.48 per year.

The test results show that there are three variables that has significant effect ($\alpha = 0.05$) on the number of individual visits to Curug Silawe, namely income, distance, and age. While the other four variables, namely travel cost, access, facilities, natural beauty, and age did not significantly influence the number of individual visits to Curug Silawe.

The income variable has significant effect with positive coefficient. It can be interpreted the higher the individual's income, then the number of individual visits to Curug Silawe will also increase. This result is similar with (Mateka, Indrayani, & Harahap, 2013); (Wanti, Syaukat, & Juanda, 2014); (Vanna Fitriana, Zainal Abidin, 2017); and (Pirikiya, Amirnejad, Oladi, & Solout, 2016) that increase in income will increase the number of visits.

The distance variable has significant effect with negative coefficient. It can be interpreted the further the distance, the number of individual visits to Curug Silawe will also decrease. This shows that tourists choose tourist attractions closer to their residence. The results of this study are in line with (Mateka et al., 2013), (Herminto, 2015), and (Pirikiya et al., 2016) that distance influence the choice of tourist attractions.

The age variable has significant effect with positive coefficient. It can be interpreted the higher the age of visitors, the number of individual visits to Curug Silawe will also increase, because it relates to the need for

refreshing from the daily work routine. This result support the result of previous studies conducted by (Mateka et al., 2013) and (Vanna Fitriana, Zainal Abidin, 2017) that age has a significant effect on the number of tourist demand.

The economic value obtained by Curug Silawe is IDR 1,109,930,140.48 per year obtained from the consumer surplus of IDR 308,656.88 per individual per year or IDR 154,328.44 per one visit. This figure is greater than the average cost of travel per individual of IDR 49,230.00 so that the benefit obtained by tourists exceed travel cost (Arsalan, Gravitiani, & Irianto, 2018). This economic value can be interpreted as the value borne if Curug Silawe has decreased or damaged the quality of the environment.

CONCLUSION

Based on the results of the research, the variables that influence the number of individual visits to Curug Silawe are income, distance, and age. The income and age variables has significant and positive effect on the number of individual visits to Curug Silawe. While the distance variables have a significant and negative effect on the number of individual visits to Curug Silawe.

The economic value of Curug Silawe Curug is. IDR 1,109,930,140.48 per year, this value is obtained from a consumer surplus per individual per visit of IDR 154,328.44 or IDR 308,656.88 per individual per year.

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